SIEMENS

syngo MammoReport

SP

Installation and Start-up

Hardcopy Camera

Camera Information for VB11

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HCC information for syngo MammoReport

General information

Acronyms and abbreviations

AE title	Application entity title
BU	Business Unit (modality)
DCS	DICOM Conformance Statement
DICOM	Digital Imaging and Communication in Medicine
HW/SW	Hardware/Software
HCC	Hardcopy Camera
LAN	Local Area Network
LUT	Look Up Table
OEM	Original Equipment Manufacturer
SCP	Service Class Provider
SCR	Soft Copy Reading
SCU	Service Class User
TCP/IP	Transfer Control Protocol/Internet Protocol

Block diagram syngo MammoReport and Hardcopy Camera

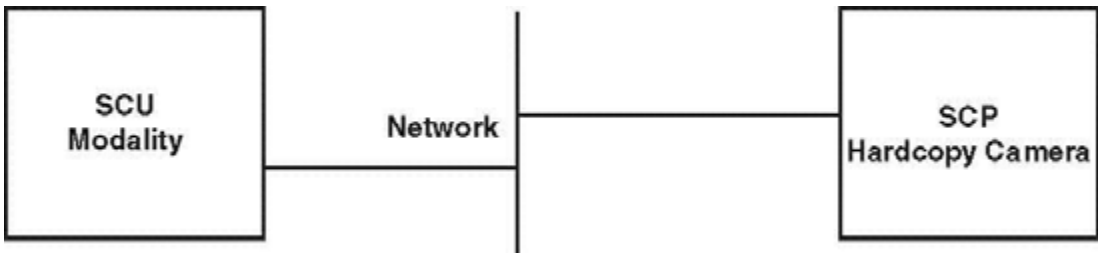


Fig. 1:

System references

- See Siemens Medical Solutions Intranet UPTIME Services
- Product-specific technical documentation

Hardware components

- Cable, straight-through, S/UTP RJ45 (5m; part no.: 30 74 515)
- Cable, straight-through, S/UTP RJ45 (30m; part no.: 30 74 523)

or

- See Siemens Medical Solutions Intranet UPTIME Services
- Product-specific technical documentation

Restrictions and known effects

NOTE	**The DICOM camera parameter for “color appearance” has to be set to a “12-bit grayscale” in the DICOM print device menu, step 3. (Filming properties)**
NOTE	**Print the SMPTE test image to check the modality and camera setting according to the description and verify the results using the values in the reference value table for max. density 3.50.**
NOTE	**The DICOM camera parameter for “maximum density” has to be set to 3.50.**
NOTE	**The Print Job, Presentation LUT and Color Print SOP Class is not tested nor released.**
NOTE	**SCR application: ("not for diagnostic use")** **CUBIC magnification type was sent without smoothing type.** **The SCR system AET is by default SCR_SYNGO.** **To configure only one AET at the printer site, also use SCR_SYNGO for syngo printing.**
NOTE	**Sending film sizes not available at the customer site can cause problems at the camera site. In this case, it is recommended to delete these film sizes for the portrait and landscape format.**
NOTE	**The density values for the image quality were measured using a calibrated X-Rite 301 densitometer. The measurement result from other densitometers may differ from the absolute density values as described in the tables.**

Errors and warning messages

n.a.

Scope of applicability

Modality/system

Device type	Modality (SCU)
Product name	syngo MammoReport
Modality host name/console	CELSIUS02
HW revision	Intel Xeon-CPU 3.06GHz / > 3GB RAM
Manufacturer	Siemens Medical Solutions
SW revision	VB11 (syngo-based VD20N)
Conformance statement	Syngo VD20J, Release 16.0

Hardcopy cameras

This table includes all hardcopy cameras using DICOM basic print.

Manufac-turer	HCC name	Software validity			
		VB10	VB11	V....	V....
AGFA	**Drystar 4500**	**n.a.**	**n.a.**		
AGFA	**Drystar 4500M**	**X**	**X**		
FUJI	**Drypix 7000/5000**	**X**	**X**		
FUJI	**FM DPL/FN-PS 551**	**X**	**X**		
KODAK	**DryView 8900**	**X**	**X**		
KODAK	**DryView 8610 / PACS Link MIM 200**	**n.a.**	**n.a.**		
KONICA Minolta	**DryPro 793**	**n.a.**	**n.a.**		

X = Hardcopy camera is released

n.a. = Hardcopy camera is not released

NOTE

The use of non-released combinations of hardcopy cameras and syngo MammoReport system is prohibited and does not meet the requirements specified.

DICOM associations

A DICOM association is a network connection between 2 DICOM applications. The association is established and released by the SCU and may be aborted by the SCU or SCP. The maximum number of associations for each HCC device is defined in the DCS. The maximum number of associations depends on the configuration and may be expanded by increasing the number of gateways connected to the printer device.

In a DICOM network environment, there are two ways to connect a modality (SCU) to an HCC device (SCP).

Case 1: The association is always opened. Assuming that this behavior applies to all modalities (connected to the same HCC device), the number of modalities has to be equal to or less than the maximum number of supported associations.

Case 2: The association is opened (and closed) on demand. Assuming that this behavior applies to all modalities (connected to the same HCC device), the number of modalities may be greater than the maximum number of supported associations. This number is shared by the modalities.

The association open-close behavior is fixed for each SIEMENS modality. This behavior is unknown for other non-SIEMENS modalities. Under optimum circumstances, the number of modalities is equal to or less than the maximum number of supported associations.

The association is always opened by the SCU (case 1)

If the associations are always opened by the SCU for each configured HCC device, the association is reserved for this SCU only.

If the maximum number of associations = 1 and another modality never releases the association, this HCC device is always reserved for this modality.

The association is opened and closed on demand (case 2)

The associations are opened (and closed) by the SCU on demand for each configured HCC device with the product name.

Special cases (also compare to case 1):

If the number of modalities configured in the HCC device is greater than the maximum number of supported associations, some modalities will not be able to print. Printing functionality depends on the access time and the release mechanism of each connected modality (e.g., the maximum number of supported associations = 1, the number of modalities = 2. During the access time of the first modality, access of the second modality is denied and connectivity fails and vice versa).

If other modalities do not release the associations, the shareable number of associations decreases.

Modality

Hardware and software prerequisites

All hardware and software prerequisites are included with the syngo MammoReport system delivery volume.

Parameters

For software configuration, HCC data/parameters and possibly additional film matrix properties (syngo: filming properties) are required.

Modality data and configuration parameters

Properties	Example	Supplier
Port number	5104	Default entry
AE title	SCR_SYNGO	Default entry
TCP/IP address	xxx.x.x.xxx	Network administrator

1. HCC data and configuration parameters[1] (syngo-based)

1 The values of these parameters are part of the specific HCC information

Example: Agfa Drystar 4500M

Application entity Properties	Display	Supplier
AE title	DRY4500M	Network administrator or HCC service
Port number	104	HCC service

HC device/ general settings		Display	Supplier
Type		DICOM printer	Default entry
Class (printer spec. file name)		agfadrystar4500M	Default entry
DICOM node		dry4500m	Default entry

Filming properties		Display	Supplier
Hold printed film jobs		10	Default entry
Min. density		20	Default entry
Pixel size [1/1000 mm]		50.0 x 50.0	Default entry
Film sheet formats, Portrait	Number of pixels [columns x rows]	8" x 10" 3828 x 4958 10” x 12” 4892 x 5810	Default entry

Filming properties		Display	Supplier
Film sheet formats, Landscape	Number of pixels [columns x rows]	8" x 10" 4958 x 3828 10” x 12” 5810 x 4892	Default entry
Medium type		Blue film	Default entry
Film destination		Processor	Default entry
Color appearance		**Grayscale 12-bit**	**Has to be changed to gray-scale 12-bit**
Background		Black	Default entry
Transformation		No magnification	Default entry

Film matrix properties

The settings for filming properties depend on the class selected (DICOM camera). A pull-down menu for DICOM-class cameras is provided. Select your DICOM camera type. A specific file for this type is loaded and the "filming properties" are shown. Changing the "filming properties" will affect the camera site and may not meet the requirements. Do not make any changes, unless instructed otherwise.

NOTE	**The filming properties are the "pixel size" and "media sheet size"; this data is required for image scaling and cannot be changed.**

2. For SCR-based application ("not for diagnostic use")

2.1 Hardcopy camera settings

Open Patient Browser, Options, SCR Service

Select DICOM, Setup tab card: DICOM entities
Step: **Select printer and edit: AET, IP address and port for the new printer.**
Example:
scr-System = SCR_SYNGO
Printer (e.g.) = DRY4500M or Printer (e.g.) = FMDPLHR or Printer (e.g.) = DRY7000HR or Printer (e.g.) = DV8900

Select DICOM, Setup tab card: DICOM entities
syngo DICOM port = 5104
SyngoAET = CELSIUS02

Select DICOM, Printer tab card: Printer setup
Step: Define the correct printer parameter as shown below and save it. “For detailed hardcopy camera setup information, see the corresponding hardcopy camera information in this document.”

NOTE

The SCR system AET is SCR_SYNGO by default. To configure only one AET at the printer site, the syngo AET for print must also be SCR_SYNGO.

Software configuration

- The following information is required for the hardcopy camera:
  - Host name
  - TCP/IP address
  - Application entity title
  - Port number

The AE title, port number and camera type have to be provided by the local camera service.

Syngo software configuration and laser camera

1. Select Options in the menu bar
2. Go to Local service
   ➪ The Siemens service software authentication platform appears
3. Enter the password and click ”OK”
   ➪ The syngo service software home menu platform appears
4. Click ”configuration”
   ➪ The local service configuration list of system options appears
5. Click DICOM ”general”
6. Click ”>”
   ➪ The local application entity title platform appears
7. Provide the local camera service with the information in the ”Print (SCU) AE Title 'SCR_SYNGO'” field
8. Click ”Save”; ”>”; ”Finish”
   ➪ The configuration setup platform appears

9. Click local host ”TCP/IP LAN”
   ➪ The local service configuration TCP/IP LAN platform appears
10. Provide the local camera service with the information in the ”IP address” field (scroll down the menu for the IP address but do not select it)
11. Click ”Finish”
    ➪ The configuration setup platform appears
12. Select "DICOM print devices"
    ➪ The local service hardcopy device platform appears
13. Enter the host name and TCP/IP address of the laser camera (provided by the camera manufacturer)
14. Click ”Test” to test IP communication (ping)
15. Click ”Save”
    ➪ Host properties successfully saved
16. Click ”OK”
17. Click ”>”
    ➪ The general note properties dialog platform appears
18. Under logical name: Enter the logical name of the laser camera
19. Select the host and choose the previously defined host name in the hardcopy device platform
20. Under application entity properties: Enter the AE title in the edit AE title field (provided by the camera manufacturer)
21. Enter the port number (provided by the camera manufacturer)
22. Click ”Add”
23. Click ”Save”
    ➪ DICOM node properties successfully saved
24. Click ”OK”
25. Select the logical name again and click ”Verification” to test DICOM communication (mc3echo)
26. Click ">"
    ➪ The camera-specific parameters platform appears
27. HC device: Enter the camera name
28. General settings: /type: DICOM printer
29. /class: e.g., agfadrystar3000 or see specific HCC information

30. Filming properties:
    - Hold printed film job, 10 = default; (max. = 10) (films can be printed again)
    - Min. density, 20 = default; (can be changed by increments of 0.1)
    - Pixel size (changes not allowed)
    - Film sheet formats, portrait (do not modify and/or add film sizes, select and delete film sizes not available at the customer site)
    - Medium type, blue film = default; clear film; paper
    - Film destination, processor = default; magazine
    - Color appearance, monochrome = default; (select color for printers that support and use color media only, e.g., Drystar2000; Codonics)
    - Background, black =default; white
    - Transformation, no magnification = default; do not change this value; except for Kodak XL 959; replicate; bilinear; cubic; (do not change any other values under filming properties)
31. Click "Save"
    ➪ Caution: Wait for the message "Device properties successfully saved"
32. Click ”OK”
33. Click ”Finish”
    ➪ The configuration setup platform appears
34. Skip by clicking ”>” and select the next marked DICOM HC overview
35. Click ”Finish”
    ➪ The configuration setup platform appears
36. Click LUT files
    ➪ The LUT platform appears.

NOTE

If new LUT files for one or more modalities are available on a removable medium, e.g., floppy or CD, these files can be selected on the source drive and copied to the dependent LUT directories on the local host. Unnecessary LUT files can be removed from the LUT directories on the local host.

37. Click ">"
    ➪ Usage of presentation LUT platform appears
38. Select “Correction LUT”
39. Modifications are necessary for additional image impressions only.

NOTE

Only the DXMG image and SC image are relevant. Depending on the camera, specific entries have to be made. If nothing else is mentioned, set the syngo MammoReport image and SC image to "CR LUT" and "3.50" for maximum density. The entries for syngo MammoReport image and SC image have to be identical.

40. Overall maximum density:
    - 3.00 = default (depends on the max. possible value of the max. density of all image types) **set to 3.50**
41. Interpolation for printing:
    - Bilinear mode = default; #Smoothing Type
    - Replicate #Smoothing Type
    - Cubic 0, 2, 3, 4 = concerns cubic mode only

      Select "Cubic 0"
42. When changes are made, click "Save"
43. Click "Finish"
44. Click "Home"; the system automatically restarts the application

NOTE	**This may take some time. Confirm the warnings with "OK"**

Image quality and optical density check

General image quality information (LUT)

Only standard LUT files are loaded. For importing/removing additional/unnecessary LUT files (see the ”Additional/unnecessary LUT files” section).

The image data from the modality to the HCC is transformed/corrected by the LUTs once in the modality and once in the HCC; thus, the LUT has to be set on both sides:

- See Siemens Medical Solutions Intranet UPTIME Services
- Product-specific technical documentation

Prerequisite correction LUT setting for syngo MammoReport

Modality	Image type	Correction LUT	Max. density
syngo MammoReport	DXMG Image	Corr16b-bspline	3.00 [1]
syngo MammoReport	DXMG Image	MG1_5bCorr-bspline (recommended LUT)	3.50
HCC	See "DICOM printer settings" under specific camera information. Settings are made by the HCC service; **"LINEAR LUT"**		

1. **(only for Drystar 4500, not Drystar 4500M)**

Density verification

There are two ways to check the LUT via the film density:

The modality is configured to a specific correction LUT and the HCC is configured to linear curves, or the modality is configured to a linear LUT and the HCC is configured to linear curves.

Density verification for syngo MammoReport

Check no.	Verification for	Modality adjustment			Reference value
	WH AWS	Image type	LUT	Max. density	
1	Desired density	DXMG Image	Corr16b-bspline	3.50 (3.00)[1]	See table for Corr16b-bspline
1	Desired density	DXMG Image	MG1_5bCorr-bspline	3.50 (3.00)[1]	See table for MG1_5bCorr-bspline
2	HCC linearity	DXMG Image	Linear	3.50 (3.00)[1]	See table for linear LUT

1. if max. density 3.50 is not supported, use max. density 3.00, e.g. Agfa Drystar 4500

These two checks are equivalent; checking the “specified density” is sufficient.

It may be necessary to check the “HCC linearity” if the desired density verification (1) shows deviations and the HCC setting needs to be changed.

NOTE

Even if the HCC service does not require a test image of the modality for the HCC setting, it is easier to check this setting - and possibly further HCC corrections - with the HCC linearity verification (2) than with the desired density verification (1). Only the HCC linearity LUT is effective; a graphical display would only show the current HCC behavior, which could be helpful for the HCC service.

Density values

- Measure the density values in 11 gray levels in the SMPTE test image (Fig. 2 / p. 16) (for each film size).

  W:1024; C:512;

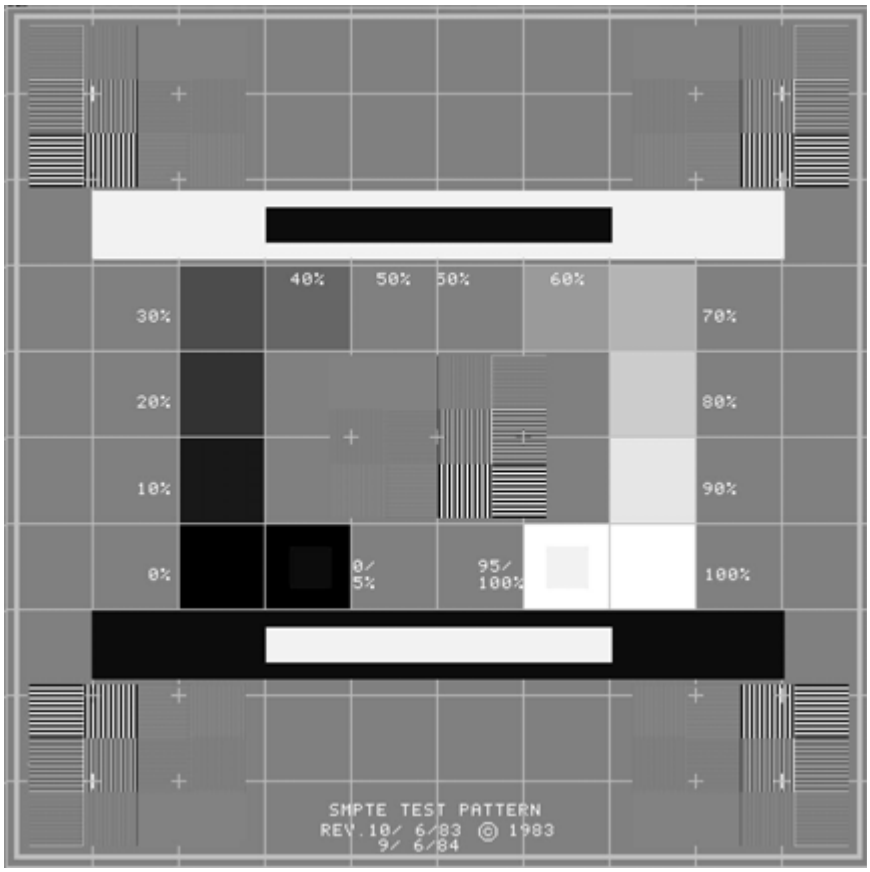


Fig. 2: SMPTE_(1k or 4k)_.....BMP

Tab. 1 Reference value for max. density 3.00

Step	Corr16b-bspline(LUT)			Linear LUT		
	Ref. LUT	Maximum density	Minimum density	Ref. LUT	Maximum density	Minimum density
1	0.20	0.23	0.17	0.20	0.23	0.17
2	0.31	0.35	0.27	0.47	0.51	0.44
3	0.42	0.47	0.37	0.76	0.80	0.72
4	0.56	0.62	0.50	1.03	1.09	0.98
5	0.73	0.79	0.67	1.32	1.38	1.26
6	0.93	1.00	0.86	1.59	1.66	1.53
7	1.15	1.23	1.07	1.88	1.95	1.81
8	1.43	1.51	1.35	2.17	2.24	2.09
9	1.82	1.91	1.73	2.45	2.54	2.36
10	2.30	2.40	2.20	2.73	2.82	2.63
11	3.00	3.10	2.90	3.00	3.10	2.90

Tab. 2 Reference value for max. density 3.50

Step	Corr16b-bspline(LUT)			Linear LUT		
	Ref. LUT	Maximum density	Minimum density	Ref. LUT	Maximum density	Minimum density
1	0.20	0.23	0.17	0.20	0.23	0.17
2	0.34	0.38	0.30	0.52	0.56	0.49
3	0.47	0.51	0.43	0.86	0.90	0.82
4	0.64	0.69	0.59	1.18	1.23	1.13
5	0.81	0.87	0.75	1.52	1.58	1.46
6	1.05	1.12	0.99	1.84	1.91	1.78
7	1.31	1.38	1.24	2.18	2.25	2.11
8	1.66	1.74	1.58	2.52	2.60	2.44
9	2.10	2.19	2.01	2.85	2.94	2.77
10	2.68	2.77	2.59	3.18	3.27	3.08
11	3.50	3.60	3.40	3.50	3.60	3.40

Tab. 3 Reference value for MG1_5bCorr-bspline (LUT)

Step	MG1_5bCorr-bspline (LUT)		
	Ref. LUT	Maximum density	Minimum density
1	0.20	0.23	0.17
2	0.44	0.48	0.40
3	0.68	0.72	0.64
4	0.94	0.99	0.89
5	1.18	1.24	1.12
6	1.45	1.52	1.39
7	1.73	1.80	1.66
8	2.01	2.09	1.93
9	2.32	2.41	2.23
10	2.73	2.82	2.64
11	3.50	3.60	3.40

Reference film

Reference film

To verify the required image quality, create a reference film and compare the measured density values from the film to the density values in the table above.

Refer to

- Siemens Medical Solutions Intranet UPTIME Services
- Product-specific technical documentation

Or follow the brief description below.

Reference film with technical images

To verify the **desired** LUT adjustment, follow this procedure:

Required configuration for desired LUT adjustment (default setting)

Modality	Image type	Correction LUT	Max. density
syngo MammoReport	DXMG Image	Corr16b-bspline	3.00 (for Agfa Drystar 4500)
syngo MammoReport	DXMG Image	MG1_5bCorr-bspline **(recommended LUT)**	3.50
HCC	See "DICOM printer settings" under specific camera information. Setting is performed by the HCC Service; **"LINEAR LUT"**		

Required configuration for linear LUT adjustment

Modality	Image type	Correction LUT	Max. density
syngo MammoReport	DXMG Image	Linear or nothing selected	3.00 (for Agfa Drystar 4500)
syngo MammoReport	DXMG Image	Linear or nothing selected	3.50
HCC	See "DICOM printer settings" under specific camera information. Setting is performed by the HCC Service; **"LINEAR LUT"**		

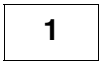
1. The layout is configurable under Option/Configuration/Filming layout
2. Use the landscape format; 2 columns; 1 row; normal image polarity; cubic magnification; mammo LUT; (CR curve); SMPTE test image; Trim=on; density=3.00 or 3.50; default center/width; for the film sheet

3. Select the "Viewing" task card, select "Patient browser", navigate to the "Service images" folder and view the test images:

   Use SMPTE test images (technical image) without text and print the film sheet.

4. Measure the SMPTE test image (Fig. 2 / p. 16) and verify the CR (LUT) using the "Density values" table

   Segment layout:



Segment	Image	Window	Center
1	SMPTE test image	1024	512

5. Repeat this procedure with the **linear** LUT adjustment

Description of the correction LUT files

Description of correction LUT files for VB10

Correction LUT	LUT files with $D_{min.}$ 0.2 and $D_{max.}$ 3.00 or 3.50
Linear or nothing selected	Linear LUT (to check the linear adjustment of the HCC)
cr	Standard LUT; default for all hardcopy cameras; max. density 3.00 - 3.50
Corr16b-bspline	12-bit binary CR-LUT; max. density 3.00 - 3.50

Description of correction LUT files for VB11

Correction LUT	LUT files with $D_{min.}$ 0.2 and $D_{max.}$ 3.00 or 3.50
Linear or nothing selected	Linear LUT
cr	Standard LUT; default for all hardcopy cameras; max. density 3.00 - 3.50
Corr16b-bspline	12-bit binary CR-LUT; max. density 3.00 - 3.50
MG1_1bCorr-bspline	12-bit binary optimized LUT; for max. density 3.50 favorable working point is density value **1.1**; (for S-IP)
MG1_3Corr-bspline	12-bit binary optimized LUT; for max. density 3.50 favorable working point is density value **1.3**;

Correction LUT	LUT files with $D_{min.}$ 0.2 and $D_{max.}$ 3.00 or 3.50
MG1_3bCorr-bspline	12-bit binary optimized LUT; for max. density 3.50 favorable working point is density value **1.3**; in dark area more contrast than in MG1_3Corr-bspline
MG1_5Corr-bspline	12-bit binary optimized LUT; for max. density 3.50 favorable working point is density value **1.5**;
MG1_5bCorr-bspline	12-bit binary optimized LUT; for max. density 3.50 favorable working point is density value **1.5**; in dark area more contrast than in MG1_5Corr-bspline **(recommended mammography LUT)**
MG1_6Corr-bspline	12-bit binary optimized LUT; for max. density 3.50 favorable working point is density value **1.6**;
MG1_6bCorr-bspline	12-bit binary optimized LUT; for max. density 3.50 favorable working point is density value **1.6**; in dark area more contrast than in MG1_6Corr-bspline

Additional and unnecessary LUT files

If new released LUT files are available on a removable medium (e.g., floppy or CD), these files may be selected on the source drive and copied to the dependent LUT directories on the local system. Unnecessary LUT files may be removed from LUT directories on the local system.

Importing LUT files

1. Select "LUT files" in the local service configuration platform
2. Select the (source) drive and the path where the appropriate LUT files are located
3. Select the destination LUT directory (correction LUT directory) which depends on the image type (DXMG Image).
4. Pressing the copy button transfers the selected LUT file to DXMG Image type.
5. Confirm the message "Files successfully copied" by clicking "OK"

Removing LUT files

Unnecessary LUT files can be removed from LUT directories on the local host by selecting the appropriate LUT file and clicking the "Remove" button.

- Click ">"

Real size scaling

n.a.

Agfa Drystar 4500M

General information

Block diagram

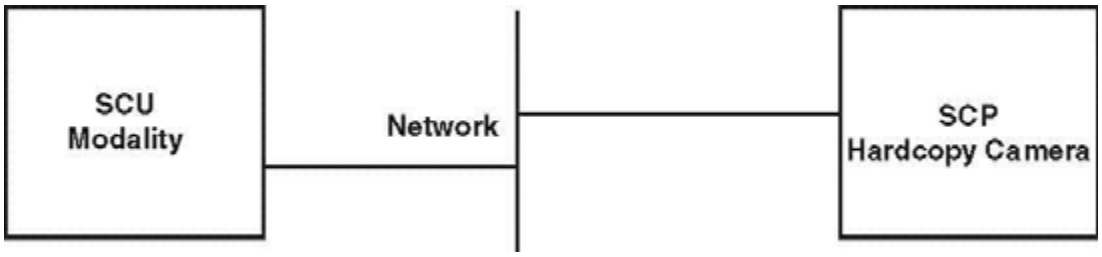


Fig. 3:

Available film sizes

Application		Status	Film Type	Medium Type
14" x 17"	Portrait	n.a.	n.a.	n.a.
	Landscape	n.a.	n.a.	n.a.
14" x 14"	Portrait	n.a.	n.a.	n.a.
	Landscape	n.a.	n.a.	n.a.
11" x 14"	Portrait	n.a.	n.a.	n.a.
	Landscape	n.a.	n.a.	n.a.
10” x 12”	Portrait	Yes	DRYSTAR MAMMO	Blue-based
	Landscape	Yes	DRYSTAR MAMMO	Blue-based
8" x 10"	Portrait	Yes	DRYSTAR MAMMO	Blue-based
	Landscape	Yes	DRYSTAR MAMMO	Blue-based
Other		n.a.	n.a.	n.a.

Restrictions

NOTE

For HCC-independent restrictions, see (Restrictions and known effects / p. 5).

NOTE	Standard EN55011, radiated emission, is only supported as class A (hospital use).

NOTE	Maximum number of associations supported: 10

NOTE	For film size 8IN X 10IN with portrait and landscape orientation, the image is not completely visible. The corners are not printed.

NOTE	No WARNINGS will be sent for the "Conformance level 0" setting.

SCU/modality software configuration

1. syngo-based modalities

Application entity Properties	Display	Changes allowed
AE title	DRY4500M	Yes
Port number	104	No

HC device/ general settings		Display	Changes allowed
Type		DICOM printer	No
Class (Printer spec. file name)		agfadrystar4500M	No
DICOM node		dry4500m	Yes

Filming properties		Display	Changes allowed
Hold printed film jobs		10	Yes
Min. density		20	No
Pixel size [1/1000 mm]		50 x 50	No

Filming properties		Display	Changes allowed
Film sheet formats, Portrait	Number of pixels [columns x rows]	8" x 10" 3828 x 4958 10" x 12" 4892 x 5810	In “Define new” Do not modify/add Select only Delete only
Film sheet formats, Landscape	Number of pixels [columns x rows]	8" x 10" 4958 x 3828 10" x 12" 5810 x 4892	
Medium type		Blue film	Yes
Film destination		Processor	No
Color appearance		Grayscale 12-bit	No
Background		Black	Yes
Transformation		No magnification	No

NOTE

Do not modify and/or add film sizes.

Do not modify pixel sizes.

Delete film sizes not available at the customer site.

2. SCR-based application "not for diagnostic use".

Open Patient Browser, Options, SCR Service

Select DICOM, Setup tab card: DICOM entities
Step: **Select printer and edit: AET, IP address and port for the new printer.**
Example:
scr-System = SCR_SYNGO
Printer (e.g.) = DRY4500M
syngo DICOM port = 5104
SyngoAET = CELSIUS02

Select DICOM, Printer tab card: Printer setup
Step: Define the correct printer parameter as shown below and save it:

DICOM Printer (setup of film size 8IN x 10IN)	Printer (setup of film size 10IN x 12IN)
Printer name = Drystar 4500M 8 x 10	Printer name = Drystar 4500M 10 x 12
Dmin = 20	Dmin = 20
Dmax = 350	Dmax = 350
Portrait matrix = 3828 x 4958	Portrait matrix = 4892 x 5810
Landscape matrix =4958 x 3828	Landscape matrix =5810 x 4892
Portrait pixel spacing = 0.5 x 0.5	Portrait pixel spacing = 0.5 x 0.5
Landscape pixel spacing = 0.5 x 0.5	Landscape pixel spacing = 0.5 x 0.5
Graylevel = 16(12)	Graylevel = 16(12)
Medium = BLUE FILM	Medium = BLUE FILM
Medium size = 8IN x 10IN	Medium size = 10IN x 12IN

NOTE

The SCR system AET is SCR_SYNGO by default. To configure only one AET at the printer site, the syngo AET for print must also be SCR_SYNGO.

SCP/hardcopy camera configuration (provided by OEM)

Identification

Device type:	DICOM print server/printer
Device name:	DRYSTAR 4500M
Manufacturer:	AGFA
SW revision:	V2.00-C1
Physical interface:	Ethernet, 10/100 base T/Tx, RJ45
Network protocol:	TCP/IP
DICOM conformance statement:	Document no. 000584, Rev. 1.5
Image memory:	Part of 128 MB main memory
Hard disk:	4 GB
Number of inputs:	1 Ethernet card
Number of outputs:	n.a.
Number of operating panels:	1 built-in operating panel

Printer settings

Parameter name	Setting
Calling AE title	SCR_SYNGO
Number of copies	1
Print priority	Low
Polarity	Normal
Film orientation	Portrait
Trim	No
Film Size ID	Empty
Medium Type	Empty
Print even if film size ID/medium type is not supported	No
Kernel	Custom: Interpolation type cubic high res., smoothing factor - 2.5
Magnification	Magn: Max.
Pixel size	Ratio: 1.0/1.0
Perception LUT	**Linear**
Kanamori-like value	0
Custom value	Empty
Illumination (cd/m^2)	2000
Reflected ambient light (cd/m2)	10
Border density (OD x 100)	Black
Empty image density (OD x 100)	Black
Minimum density	Empty
Maximum density	Site/370
Annotation 1	Edit custom: None
Annotation 2	Edit custom: None
Window (%)	Empty
Level (%)	Empty
Image orientation	R0
Conformance level	**0**
N-event enabled	**Off**
Mammo modality	**Site: Yes**

Parameter name	Setting
Association timeout(s)	0
Image timeout(s)	0
ALLOW IMPLICIT VR LITTLE ENDIAN	Yes
ALLOW EXPLICIT VR LITTLE ENDIAN	Yes
ALLOW EXPLICIT BIG ENDIAN	Yes
Resolution	508
Supported SOP classes	Edit
Early processing allowed	YES

Error/warning messages

No errors or warnings have been tested.

Image quality and optical density

No specific parameter available.

Real size scaling

n.a.

Agfa Drystar 4500

General Information

Block Diagram

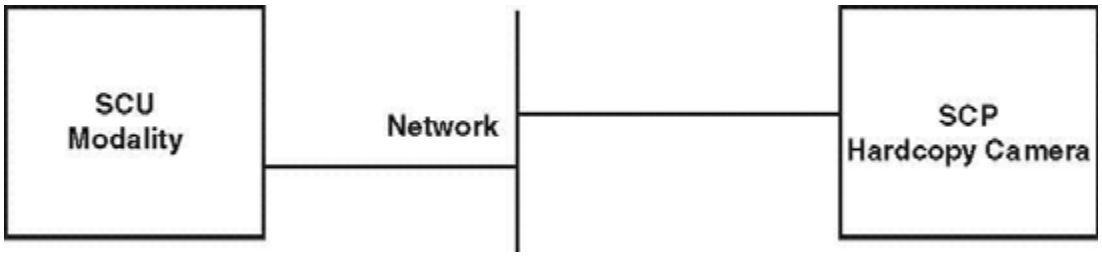


Fig. 4:

Available Film Sizes

Application		Status	Film type	Medium type
14" x 17"	Portrait	n.a.	n.a.	n.a.
	Landscape	n.a.	n.a.	n.a.
14" x 14"	Portrait	n.a.	n.a.	n.a.
	Landscape	n.a.	n.a.	n.a.
11" x 14"	Portrait	n.a.	n.a.	n.a.
	Landscape	n.a.	n.a.	n.a.
10” x 12”	Portrait	Yes	DT1B	Blue-based
	Landscape	Yes	DT1B	Blue-based
8" x 10"	Portrait	Yes	DT1B	Blue-based
	Landscape	Yes	DT1B	Blue-based
Other		n.a.	n.a.	n.a.

Restrictions

NOTE **For HCC-independent restrictions, see (Restrictions and known effects / p. 5).**

NOTE **Standard EN55011, radiated emission, is only supported as class A (hospital use).**

NOTE **Maximum number of associations supported: 10**

NOTE	For film size 8IN X 10IN with portrait and landscape orientation, the image is not completely visible. The corners are not printed.

NOTE	No WARNINGS will be sent for the "Conformance level 0" setting.

NOTE	The background command does not work properly. The background is always white.

NOTE	The maximum density of 3.5 is not possible for this printer. Instead, 3.0 is applicable.

SCU/modality software configuration

1. syngo-based modalities

Application entity Properties	Display	Changes allowed
AE title	DRY4500	Yes
Port number	104	No

HC device/ general settings		Display	Changes allowed
Type		DICOM printer	No
Class (Printer spec. file name)		agfadrystar4500	No
DICOM node		dry4500	Yes

Filming properties		Display	Changes allowed
Hold printed film jobs		10	Yes
Min. density		20	No
Pixel size [1/1000 mm]		50 x 50	No

Filming properties		Display	Changes allowed
Film sheet formats, Portrait	Number of pixels [columns x rows]	8" x 10" 3828 x 4672 10" x 12" 4672 x 5760	In “Define new” Do not modify/add Select only Delete only
Film sheet formats, Landscape	Number of pixels [columns x rows]	8" x 10" 4672 x 3828 10" x 12" 5760 x 4672	
Medium type		Blue film	Yes
Film destination		Processor	No
Color appearance		Grayscale 12-bit	No
Background		Black	Yes
Transformation		No magnification	No

NOTE

Do not modify and/or add film sizes.

Do not modify pixel sizes.

Delete film sizes not available at the customer site.

2. SCR-based application "not for diagnostic use".

Open Patient Browser, Options, SCR Service

Select DICOM, Setup tab card: DICOM entities
Step: **Select printer and edit: AET, IP address and port for the new printer.**
Example:
scr-System = SCR_SYNGO
Printer (e.g.) = DRY4500
syngo DICOM port = 5104
SyngoAET = CELSIUS02

Select DICOM, Printer tab card: Printer setup
Step: Define the correct printer parameter as shown below and save it:

DICOM Printer (setup of film size 8IN x 10IN)	Printer (setup of film size 10IN x 12IN)
Printer name = Drystar 4500 8x10	Printer name = Drystar 4500 10x12
Dmin = 20	Dmin = 20
Dmax = 300	Dmax = 300
Portrait matrix = 3828x4672	Portrait matrix = 4672x3828
Landscape Matrix =4672x5760	Landscape Matrix =5760x4672
Portrait pixel spacing = 0.5 x 0.5	Portrait pixel spacing = 0.5 x 0.5
Landscape pixel spacing = 0.5 x 0.5	Landscape pixel spacing = 0.5 x 0.5
Graylevel = 16(12)	Graylevel = 16(12)
Medium = BLUE FILM	Medium = BLUE FILM
Medium size = 8IN x 10IN	Medium size = 10IN x 12IN

NOTE

The SCR system AET is by default SCR_SYNGO. To configure only one AET at the printer site, the syngo AET for print must also be SCR_SYNGO.

SCP / Hardcopy Camera Configuration (provided by OEM)

Identification

Device type:	DICOM print server/printer
Device Name:	DRYSTAR 4500
Manufacturer:	AGFA
SW Revision:	1.95C
Physical Interface:	Twisted pair
Network protocol:	TCP/IP - DICOM
DICOM conformance statement:	Drystar 4500, Rev.1.3, Doc. No. 000584
Image memory:	Part of 128 MB - RAM
Hard disk:	4 GB
Number of inputs:	1
Number of outputs:	n.a.
Number of operating panels:	1

Printer Settings

Parameter name	Setting
Calling AE title	AWS2
Number of copies	1
Print priority	Low
Polarity	Normal
Film orientation	Portrait
Trim	No
Film Size ID	Empty
Medium type	Empty
Print even if Film Size ID / Medium Type not supported	No
Kernel	Cubic high res. - 2.5
Magnification	Magn: Max.
Pixel size	1.0 / 1.0
Perception LUT	Linear
Kanamori-like value	0
Custom value	Empty
Illumination (cd/m^2)	2000
Reflected ambient light (cd/m2)	10
Border density (OD x 100)	Black
Empty image density (OD x 100)	Black
Minimum density	20
Maximum density	300
Annotation 1	Edit custom: None
Annotation 2	Edit custom: None
Window (%)	Empty
Level (%)	Empty
Image orientation	R0
Conformance level	0
N-event enabled	Off
Mammo modality	Site: Yes

Parameter name	Setting
Association timeout(s)	0
Image timeout(s)	0
ALLOW IMPLICIT VR LITTLE ENDIAN	Yes
ALLOW EXPLICIT VR LITTLE ENDIAN	Yes
ALLOW EXPLICIT BIG ENDIAN	Yes
Resolution	320
Supported abstract syntax	Basic film box SOP class Basic Gray PM Meta SOP Class Basic Color PM Meta SOP Class Print queue management SOP class Printer SOP class Basic color image box Basic grayscale image box Basic film session SOP class Print job SOP class Presentation LUT SOP class Basic annotation box SOP class Verification service class Print queue management SOP class
Initial allocated memory size per print job (MBytes)	23

Error / warning messages

No errors or warnings have been tested.

Image quality and optical density

Film type

- Released film type: DRYFILM DT1B

Real size scaling

n.a.

Fuji Drypix 7000

General information

Block diagram

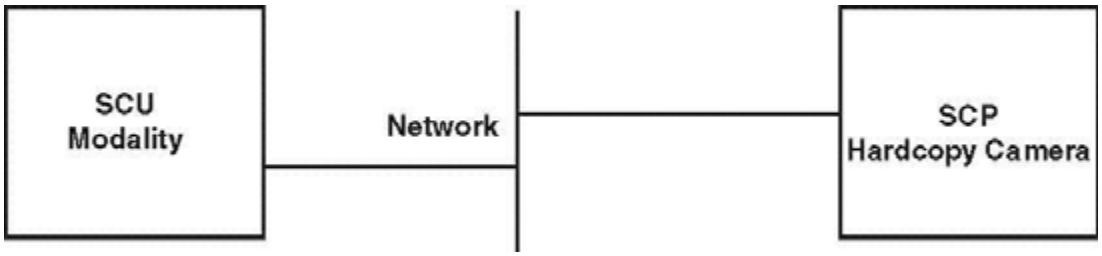


Fig. 5:

Available film sizes

Application		Status	Film type	Medium type
14" x 17"	Portrait	No[1]	No[1]	No[1]
	Landscape	No[1]	No[1]	No[1]
14" x 14"	Portrait	n.a.	n.a.	n.a.
	Landscape	n.a.	n.a.	n.a.
11" x 14"	Portrait	Yes	DI-HL	Blue-based
	Landscape	Yes	DI-HL	Blue-based
10" x 12"	Portrait	n.a.	n.a.	n.a.
	Landscape	n.a.	n.a.	n.a.
8" x 10"	Portrait	Yes	DI-HL	Blue-based
	Landscape	Yes	DI-HL	Blue-based
Other		n.a.	n.a.	n.a.

1. Film size (format) is available but not released

Restrictions

NOTE **For HCC-independent restrictions, see (Errors and warning messages / p. 5).**

NOTE **Only EN55011, class A (hospital use), is supported.**

NOTE	Maximum number of associations supported: 10

NOTE	The warning attribute selection must be disabled, otherwise the SCR application will not print.

SCU/modality software configuration

1. syngo-based modalities

Application entity Properties	Display	Changes allowed
AE title	DRY7000HR	Yes
Port number	104	No

HC device/ general settings		Display	Changes allowed
Type		DICOM printer	No
Class (Printer spec. file name)		fujidrypix7000HiRes	No
DICOM node		dry7000hr	Yes

Filming properties		Display	Changes allowed
Hold printed film jobs		10	Yes
Min. density		20	Yes
Pixel size [1/1000 mm]		50.0 x 50.0	No
Film sheet formats, Portrait	Number of pixels [columns x rows]	11" x 14" 5075 x 7043 8" x 10" 3907 x 4819	In “Define new” Do not modify/add Select only Delete only
Film sheet formats, Landscape	Number of pixels [columns x rows]	11" x 14" 7199 x 4919 8" x 10" 4931 x 3795	
Medium type		Blue film	Yes

Filming properties		Display	Changes allowed
Film destination		Processor	No
Color appearance		Grayscale 12-bit	No
Background		Black	Yes
Transformation		No magnification	No

NOTE

Do not modify and/or add film sizes.

Do not modify pixel sizes.

Delete film sizes not available at the customer site.

2. SCR-based application "not for diagnostic use".

Open Patient Browser, Options, SCR Service

Select DICOM, Setup tab card: DICOM entities
Step: **Select printer and edit: AET, IP address and port for the new printer.**
Example:
scr-System = SCR_SYNGO
Printer (e.g.) = DRY7000HR
syngo DICOM port = 5104
SyngoAET = CELSIUS02

Select DICOM, Printer tab card: Printer setup
Step: Define the correct printer parameter as shown below and save it:

DICOM **Printer (setup of film size 8IN x 10IN)**	**Printer (setup of film size 11IN x 14IN)**
Printer name = DRYPIX 7000 8 x 10	Printer name = DRYPIX 7000 11 x 14
Dmin = 20	Dmin = 20
Dmax = 350	Dmax = 350
Portrait matrix = 3907 x 4819	Portrait matrix = 5075 x 7043
Landscape matrix =4931 x 3795	Landscape matrix =7199 x 4919
Portrait pixel spacing = 0.5 x 0.5	Portrait pixel spacing = 0.5 x 0.5

DICOM Printer (setup of film size 8IN x 10IN)	Printer (setup of film size 11IN x 14IN)
Landscape pixel spacing = 0.5 x 0.5	Landscape pixel spacing = 0.5 x 0.5
Graylevel = 16(12)	Graylevel = 16(12)
Medium = BLUE FILM	Medium = BLUE FILM
Medium size = 8IN x 10IN	Medium size = 11IN x 14IN

NOTE

The SCR system AET is SCR_SYNGO by default. To configure only one AET at the printer site, the syngo AET for print must also be SCR_SYNGO.

SCP/hardcopy camera configuration (provided by OEM)

Identification

Manufacturer/device type:	DICOM print server (SCP)
Device name:	Drypix 7000
Manufacturer:	FUJI
SW revision:	A04
Physical type:	Ethernet, 10/100 base T/Tx, RJ45
Network protocol:	TCP/IP
DICOM conformance statement:	November 2002, 1st edition.
Image memory:	512 MB RAM (standard)
Hard disk:	20 GB
Number of inputs:	1 network
Number of outputs:	n.a.
Number of operating panels:	1 built-in operating panel

Printer settings

File name	Content	Remarks
Not available	**Protocol:**	For client: SCR_SYNGO
	0107H warning	**Not indicated**
	0116H warning	**Not indicated**

File name	Content	Remarks
	B604H warning	**Not indicated**
	N-event report RQ	Disabled
	Use extension format	No
	Change film	272: 0110H[F]
	Use system timeout	Yes
	Presentation LUT	No
	Use max./min. density	Modality
	Magnify:	
	Procedure	A-VR
	Default smoothing type	SHARP
	Adjustment param. SHARP	
	Edge detection	On
	Detection level	600
	Sharpness	130
	Char. mode	White
	Adjustment param. MEDIUM	
	Edge detection	On
	Detection level	600
	Sharpness	80
	Char. mode	White
	Adjustment param. SMOOTH	
	Edge detection	On
	Detection level	800
	Sharpness	30
	Char. mode	White
	LUT:	
	Procedure	SAR
	Default LUT	1
	Adjustment parameters	
	LUT	
	r table number	39

File name	Content	Remarks
	Max. density	360
	Min. density	17
	Number of tuning points	2
	Tuning point 1	Density 120/shift +3
	Tuning point 2	Density 240/shift +1
	Tuning point 3	
	Tuning point 4	
	Tuning point 5	
	Dmax 3.6	Standard
	Output format:	
	Border density	300
	Polarity [pos./neg.]	Normal [pos.]
	Trim density	0
	Trim	Off
	Margin between images	20
	Image layout	Concentration
	Film size	10IN X 14IN
	Film orientation	Portrait
	Mirror	Off

NOTE **The warning attribute selection must be disabled, otherwise the SCR application will not print.**

Error/warning messages

No errors or warnings have been tested.

Image quality and optical density

No specific parameter available.

Real size scaling

n.a.

Fuji FM DPL/FN-PS551

General information

Block diagram

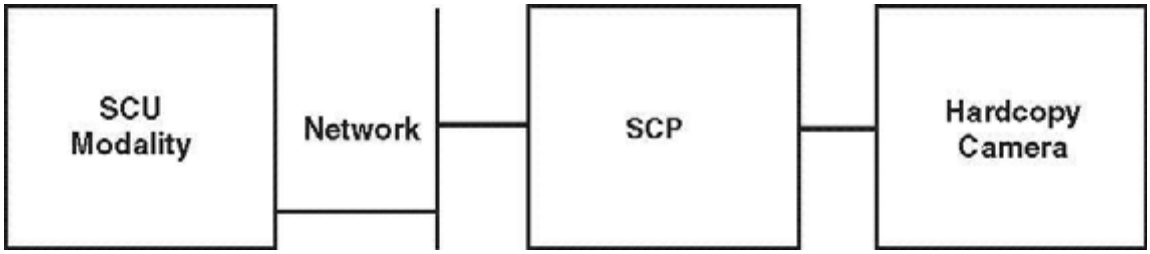


Fig. 6:

Available film sizes

Application		Status	Film type	Medium type
14" x 17"	Portrait	No[1]	No[1]	No[1]
	Landscape	No[1]	No[1]	No[1]
14" x 14"	Portrait	n.a.	n.a.	n.a.
	Landscape	n.a.	n.a.	n.a.
11" x 14"	Portrait	Yes	DI-AL	Blue-based
	Landscape	Yes	DI-AL	Blue-based
8" x 10"	Portrait	Yes	DI-AL	Blue-based
	Landscape	Yes	DI-AL	Blue-based
Other		n.a.	n.a.	n.a.

1. Film size is available but not released

Restrictions

NOTE **For HCC-independent restrictions, see (Errors and warning messages / p. 5).**

NOTE **Only EN55011 and FCC, class A (hospital use).**

NOTE **Additional labeling and trim have been switched off.**

NOTE	**Only one camera connection to FN-PS551 was used for the qualification.**
NOTE	**Maximum number of associations supported: 6**
NOTE	**In a multi-modality environment, one additional hardware channel (also a second print server PS551) must be installed for mammography modalities on the printer side.**
NOTE	**Known effect of FN-PS551: The warning attribute selection must be disabled, otherwise the SCR application will not print.**
NOTE	**Printer is responding with max. density 3.0 instead of the requested 3.5. Films will be printed with a density of 3.5**
NOTE	**The warning attribute selection must be disabled, otherwise the SCR application will not print.**

SCU/modality software configuration

1. syngo-based modalities

Application entity Properties	Display	Changes allowed
AE title	FMDPLHR	Yes
Port number	104	No

HC device/ general settings		Display	Changes allowed
Type		DICOM printer	No
Class (Printer spec. file name)		fujifmdpHiRes	No
DICOM node		FMDPLhr	Yes

Filming properties		Display	Changes allowed
Hold printed film jobs		10	Yes
Min. density		20	Yes
Pixel size [1/1000 mm]		50 x 50	No
Film sheet formats, Portrait	Number of pixels [columns x rows]	11" x 14" 5000 x 7000 8" x 10" 3904 x 4819	In “Define new” Do not modify/add Select only Delete only
Film sheet formats, Landscape	Number of pixels [columns x rows]	11" x 14" 7120 x 4880 8" x 10" 4928 x 3795	
Medium type		Blue film	Yes
Film destination		Processor	No
Color appearance		Grayscale 12-bit	No
Background		Black	Yes
Transformation		No magnification	No

NOTE

Do not modify and/or add film sizes.

Do not modify pixel sizes.

Delete film sizes not available at the customer site.

2. SCR-based application "not for diagnostic use".

Open Patient Browser, Options, SCR Service

Select DICOM, Setup tab card: DICOM entities
Step: **Select printer and edit: AET, IP address and port for the new printer.**
Example:
scr-System = SCR_SYNGO
Printer (e.g.) = FMDPLHR
syngo DICOM port = 5104
SyngoAET = CELSIUS02

Select DICOM, Printer tab card: Printer setup
Step 2: Define the correct printer parameter as shown below and save it:

DICOM Printer (setup of film size 8IN x 10IN)	Printer (setup of film size 11IN x 14IN)
Printer name = FMDPL-PS551 8 x 10	Printer name = FMDPL-PS551 11 x 14
Dmin = 20	Dmin = 20
Dmax = 350	Dmax = 350
Portrait matrix = 3904 x 4819	Portrait matrix = 5000 x 7000
Landscape matrix =4928 x 3795	Landscape matrix =7120 x 4880
Portrait pixel spacing = 0.5 x 0.5	Portrait pixel spacing = 0.5 x 0.5
Landscape pixel spacing = 0.5 x 0.5	Landscape pixel spacing = 0.5 x 0.5
Graylevel = 16(12)	Graylevel = 16(12)
Medium = BLUE FILM	Medium = BLUE FILM
Medium size = 8IN x 10IN	Medium size = 11IN x 14IN

NOTE

The SCR system AET is SCR_SYNGO by default. To configure only one AET at the printer site, the syngo AET for print must also be SCR_SYNGO.

SCP/hardcopy camera configuration (provided by OEM)

Identification

Device type:	DICOM print server/printer
Device name:	**FN-PS551**
Manufacturer:	FUJI photo film
SW revision:	**A 06**
Physical interface:	Ethernet 10/100 base T/TX, RJ45
Network protocol:	TCP/IP
DICOM conformance statement:	DCS FM-DPL/May 2001, 4th edition
Image memory:	6 GB (256 MB main memory)

Hard disk:	6.4 GB
Number of inputs:	1 network, RJ45
Number of outputs:	1
Number of operating panels:	1 keyboard

Device type:	**DICOM camera**
Device name:	**FM - DPL**
Manufacturer:	FUJI photo film
SW revision:	**W01-02**
Physical interface:	None
Network protocol:	None
DICOM conformance statement:	None
Image memory:	48 MB RAM
Hard disk:	None
Number of inputs:	3 inputs
Number of outputs:	n.a.
Number of operating panels:	1 built-in keypad

Printer settings

Film size:	26 X 36
Image type:	**Enable fine scan**
Gradation type:	Select: 3.6

File name	Content	Remarks
None	**FUJI service utility setting**	**Provided by FUJI**
	Function	Properties
	Protocols: DICOM	Network port no. = 104
		Data transfer timeout = 600 sec.
		Print server application entity = one for each printer
		Data receive if the printer is offline = enable
	Printer: FMDPL	Properties

File name	Content	Remarks
None	**FUJI service utility setting**	**Provided by FUJI**
	Name:	AE title of DICOM = FMDPL
		Fine printing = FMDPLHR
	Interface:	Interface = E-i/f
		Pixel clock = 1.0 µsec/pixel
		Version = Type 1
		Film size = 14 x 17
		Film medium = Blue
	Model:	Model = FN-PS551
		Manufacturer = FUJI PHOTO FILM CO, LTD
	Clients: DICOM:	Properties
	Name:	Host name = CELSIUS02
		IP address = (from system administrator)
	Protocol:	Protocol = DICOM
		Application entity title = SCR_SYNGO
		Attribute list error (0107H warning) = **Not indicated**
		Attribute value out of range (0116H warning) = **Not indicated**
		Image size larger than image box (B604H warning) = **Not indicated**
		N-event report RQ = Disabled
		Use presentation LUT = No
		Data transfer timeout = enabled
		Use extension format = No
	Magnify:	Procedure = A-VR
		Smoothing type = SHARP
		Adj. parameter = SHARP
		Edge detection = Off
		Detection level = 600
		Sharpness = 130

File name	Content	Remarks
None	**FUJI service utility setting**	**Provided by FUJI**
		Character color = White
	LUT:	Procedure = SAR
		Default LUT = 1 (linear)
		Adj. parameter LUT = 1
		r table no. = 39
		Max. density = 300
		Min. density = 20
		Number of tuning points = 2
		Tuning point 1, density = 75, shift = 2, contrast = 100
		Tuning point 2, density = 275, shift = -5, contrast = 100
	Printer:	Fixed, FMDPL
	Output format 1:	Border density = 300
		Polarity = Normal (pos.)
		Trim density = 300
		Trim = Off
		Trim width = 1 pixel
		Number of copies = 1
		Film size = 14 x 17
		Medium type = Blue
		Film orientation = Portrait
		Mirror = Off (normal)
		Overlay threshold density = 120
	Output format 2:	Margin between images = 20 pixels
		Image layout = concentration

File name	Content	Remarks
None	**FUJI service utility setting**	**Provided by FUJI**
	Annotation: Print server	Upper left = (nothing selected)
		Upper center = (nothing selected)
		Upper right = (nothing selected)
		Upper left = (nothing selected)
		Lower center = (nothing selected)
		Lower right = (nothing selected)
	Logging:	Network = (No)
		Printer = (No)
		DICOM = Normal
		Output image to file = Off
		Precedence = input
	Sorting:	Sorting conditions = (nothing selected)

NOTE

The warning attribute selection must be disabled, otherwise the SCR application will not print.

Error/warning messages

No errors or warnings have been tested.

Image quality and optical density

No specific parameter available.

Real size scaling

n.a.

Kodak DryView 8900

General information

Block diagram

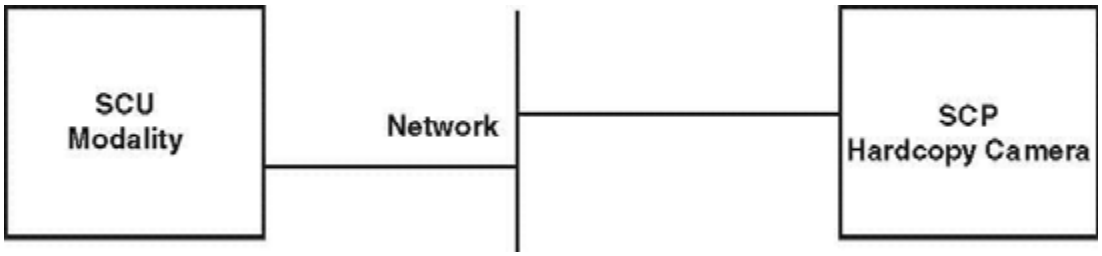


Fig. 7:

Available film sizes

Application		Status	Film type	Medium type
14" x 17"	Portrait	No[1]	No[1]	No[1]
	Landscape	No[1]	No[1]	No[1]
14" x 14"	Portrait	No[1]	No[1]	No[1]
	Landscape	No[1]	No[1]	No[1]
11" x 14"	Portrait	No[1]	No[1]	No[1]
	Landscape	No[1]	No[1]	No[1]
10" x 12"	Portrait	Yes	DVM	Blue-based
	Landscape	Yes	DVM	Blue-based
8" x 10"	Portrait	Yes	DVM	Blue-based
	Landscape	Yes	DVM	Blue-based
Other		n.a.	n.a.	n.a.

1. Film size is available but not released

Restrictions

NOTE

For HCC-independent restrictions, see (Restrictions and known effects / p. 5).

NOTE

Standard EN55011 is supported only as a class A (hospital use) device.

NOTE

The minimum density command is not supported. The minimum density value is the value of the fog on the film.

NOTE

Maximum number of associations supported: 12

NOTE

For mammography use:

Only film sizes 8" x 10" and 10" x 12" with the DVM film type are released.

NOTE

The linear LUT for film sizes 8” x 10” and 10” x 12” is out of tolerance for a max. density of 3.5.

The linear LUT for film size 10” x 12” is out of tolerance for a max. density of 3.0.

NOTE

This setting is different from the Kodak default setting. The first time a new modality sends a print job to DryView 8900, it will automatically assign the wrong Kodak setting. It is therefore necessary for the Kodak technician to install the correct setting.

NOTE

For all film sizes, portrait and landscape orientation, an "identification" text sentence is visible (at one border site) in the diagnostic area. The diagnostic area is not completely visible at some edges, because they are rounded.

SCU/modality software configuration

1. syngo-based modalities

Application entity Properties	Display	Changes allowed
AE title	DV8900[1]	Yes
Port number	5040	No

1. Do not use an AE title such as “NER_...”

HC device/ general settings		Display	Changes allowed
Type		DICOM printer	No
Class (Printer spec. file name)		kodak8900HiRes_smallB	No
DICOM node		DV8900	Yes

Filming properties		Display	Changes allowed
Hold printed film jobs		10	Yes
Min. density		20	Yes
Pixel size [1/1000 mm]		39.08 x 39.08	No
Film sheet formats, Portrait	Number of pixels [columns x rows]	10" x 12" 6368 x 7656 8" x 10" 5056 x 6368	In “Define new” Do not modify/add Select only Delete only
Film sheet formats, Landscape	Number of pixels [columns x rows]	10" x 12" 7656 x 6368 8" x 10" 6368 x 5056	
Medium type		Blue film	Yes
Film destination		Processor	No
Color appearance		Grayscale 12-bit	No
Background		Black	Yes
Transformation		No magnification	No

NOTE

Do not modify and/or add film sizes.

Do not modify pixel sizes.

Delete film sizes not available at the customer site.

2. SCR-based application "not for diagnostic use".

Open Patient Browser, Options, SCR Service

Select DICOM, Setup tab card: DICOM entities
Step 2: **Select printer and edit: AET, IP address and port for the new printer.**
Example:
scr-System = SCR_SYNGO
Printer (e.g.) = DV8900
syngo DICOM port = 5104
SyngoAET = CELSIUS02

Select DICOM, Printer tab card: Printer setup
Step: Define the correct printer parameter as shown below and save it:

DICOM **Printer (setup of film size 8IN x 10IN)**	**Printer (setup of film size 11IN x 12IN)**
Printer name = DRYVIEW8900 8 x 10	Printer name = DRYVIEW8900 10 x 12
Dmin = 20	Dmin = 20
Dmax = 350	Dmax = 350
Portrait matrix = 5056 x 6368	Portrait matrix = 6368 x 7656
Landscape matrix =6368 x 5056	Landscape matrix =7656 x 6368
Portrait pixel spacing = 0.5 x 0.5	Portrait pixel spacing = 0.5 x 0.5
Landscape pixel spacing = 0.5 x 0.5	Landscape pixel spacing = 0.5 x 0.5
Graylevel = 16(12)	Graylevel = 16(12)
Medium = BLUE FILM	Medium = BLUE FILM
Medium size = 8IN x 10IN	Medium size = 11IN x 14IN

NOTE

The SCR system AET is SCR_SYNGO by default. To configure only one AET at the printer site, the syngo AET for print must also be SCR_SYNGO.

SCP/hardcopy camera configuration (provided by OEM)

Identification

Manufacturer/device type:	DICOM print server (SCP)
Device type:	Dry imager
Manufacturer/device name:	Kodak/DryView 8900
SW revision:	DV8900_2.11 MIM_5.6.b5
Image memory:	786 MB RAM
Hard disk:	40 GB
Number of operating panels:	1 internal keypad
Number of inputs:	1
Number of outputs:	n.a.
Physical network interface:	Ethernet, RJ45
Network protocol:	TCP/IP
Manufacturer's specifications:	Kodak document#1F0730, revision C, January 28, 2004, release 2.0

Printer settings

Content
8900 setup: (Provided by Kodak)
➪ **On configuration, system, network:** Host Name=DV8900, IPAddr=accordingly Subnet Mask=accordingly, Gateway Addr=accordingly **On Configuration, DICOM SCP, Communications:** Port=5040, Association Limit=12, Source Name=DICOM **On configuration, destination:** General remarks: Log.Name=8900 Media types: Media=35x43cm, 9100x11037, 10781, Any Media types: Media=35x35 cm, 9100x9087, 8831, Any Media types: Media=11"x14", 7137x9100, 8844, Any Media types: Media=10"x12", 6490x7767, 7511, Any Media types: Media=8"x10", 5167x6490, 6234, Any Formatting: Aspect Ratio Mix Page=On, Aspect Ratio Mix Row=On Formatting: Image Size Mix in Std Fmt=On, Image Size Mix Row=On Formatting: DICOM Annotation Box=On, Req. Image Size=On Formatting: Req. Size Scale=On, Req. Size Mix Page=On Formatting: Req. Size Mix Row=On, Trim=On, Formatting: True Landscape=On, Rotation=On Formatting: Minify/Crop=On, Tone Scaling on Image Basis=On Formatting: Max Img Band=7, Max Band Page=7, Max Img Cols=0 Formatting: Max Img Rows=0, Pixel Pitch=25.5910, Min Horiz Sep=4 Formatting: Min Vert Sep=4, Trim Width Enabled=4 Formatting: Trim Width Disabled=0, Maximum DMAX=3.30 **On configuration, DICOM SCP, SCP services:** Select specific modality, modify: Negotiate Presentation LUT=No, Negotiate Color Print=No **TFT/ULUT= Wrkstn2a.w87** (Always=Y) **Contrast=1**(Always=N), **Smoothing type=5** (Always=Y), Image Dmin=0.00 (Always=N), Image Dmax=3.00 (Always=N) Polarity= Normal, (Always=N) NeventReports=No (Always=Y), Warnings=Yes Print Priority=Normal (Always=N), Border=3.99 (Always=N) **2mm Border=Yes, Film Base=Mammo Blue Film** (Always=Y) Film Size=14INx17IN (Always=N) Sorter Bin=Bin1 (Always=N), Print Date=No, Print Time=No, Page No.=No, Hosp.Name=No, Modality ID=No Annotation Override=No, Density Patch=No Image Resizing=Minify/Scale (Always=N), Text Box Location=None, Source ID=syngo

NOTE	**This setting is different from the Kodak default setting. The first time a new modality sends a print job to DryView 8900, it will automatically assign the wrong Kodak setting. It is therefore necessary for the Kodak technician to install the correct setting.**

Error/warning messages

No errors or warnings have been tested.

Image quality and optical density

No specific parameter available.

Real size scaling

n.a.

n.a., new version

Chapter	Section	Action